

AMENDMENT A (IN RESPONSE TO PAPER NO. 4
(OFFICE ACTION DATED MAY 22, 2003))

CLAIM AMENDMENTS

1. (ORIGINAL) An apparatus including a signal multiplexor for controlling and multiplexing video image and on-screen-display (OSD) signals, comprising:

a first control circuit that following reception of a first reference signal, a contrast control signal and a clamped video signal provides a first controlled signal with a contrast-controlled video component;

a first signal combining circuit, coupled to said first control circuit, that in response to a first combining control signal receives and selectively combines an OSD signal and said first controlled signal to thereby provide a first combination signal with said contrast-controlled video component and an OSD component;

a second control circuit, coupled to said first signal combining circuit, that following reception of said first combination signal, said first reference signal and a gain control signal provides a second controlled signal with a contrast-controlled and gain-controlled video component and a gain-controlled OSD component; and

a second signal combining circuit, coupled to said second control circuit, that in response to a second combining control signal receives and selectively combines said second controlled signal and a second reference signal to thereby provide a multiplexed signal with said contrast-controlled and gain-controlled video component, said gain-controlled OSD component and a reference signal component.

2. (ORIGINAL) The apparatus of claim 1, further comprising a clamp circuit, coupled to said first control circuit, that following reception of said first reference signal, a clamp control signal, said first controlled signal and an input video signal provides said clamped video signal.

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3. (ORIGINAL) The apparatus of claim 2, wherein said clamp circuit comprises:

an input stage that following reception and combination of a switched clamp signal and said input video signal provides said clamped video signal;

a comparator circuit, coupled to said first control circuit, that following reception and comparison of said reference signal and said first controlled signal provides a clamp signal; and

a switch circuit, coupled between said comparator circuit and said input stage, that in response to said clamp control signal receives and switches said clamp signal to thereby provide said switched clamp signal.

4. (ORIGINAL) The apparatus of claim 1, wherein said first signal combining circuit comprises a multiplexor circuit that multiplexes said OSD signal and said first controlled signal in response to said first combining control signal to thereby provide said first combination signal.

5. (ORIGINAL) The apparatus of claim 1, wherein said second signal combining circuit comprises a multiplexor circuit that multiplexes said second and third controlled signals in response to said second combining control signal to thereby provide said multiplexed signal.

6. (CURRENTLY AMENDED) A An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information, comprising:

a-an analog contrast-controlled and gain-controlled video signal component representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

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~~a-an analog gain-controlled OSD signal component representing a portion of an OSD image for display as another portion of said composite display image on said display device and generated by controlling said video and OSD signal gains correspondingly; and~~

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

7. (CURRENTLY AMENDED) ~~A-An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information and conveyed via a signal medium, said multiplexed signal comprising:~~

a signal medium; and

an analog multiplexed signal conveyed via said signal medium and comprising

~~a-an analog contrast-controlled and gain-controlled video signal component representing a portion of a video image for display as a portion of a composite display image on a display device; and generated by controlling said video signal contrast and gain mutually independently,~~

~~a-an analog gain-controlled OSD signal component representing a portion of an OSD image for display as another portion of said composite display image on said display device; and generated by controlling said video and OSD signal gains correspondingly, and~~

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-

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division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

8. (CURRENTLY AMENDED) ~~A~~ An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information for conveyance via a signal medium, ~~said multiplexed signal comprising:~~

~~a~~ an analog contrast-controlled and gain-controlled video signal component representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

~~a~~ an analog gain-controlled OSD signal component representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device~~ and generated by controlling said video and OSD signal gains correspondingly; and

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

9. (ORIGINAL) A method of controlling and multiplexing video image and on-screen-display (OSD) signals, comprising the steps of:

receiving a first reference signal, a contrast control signal and a clamped video signal and in response thereto generating a first controlled signal with a contrast-controlled video component;

receiving a first combining control signal and in response thereto receiving

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and selectively combining an OSD signal and said first controlled signal and thereby generating a first combination signal with said contrast-controlled video component and an OSD component;

receiving said first combination signal, said first reference signal and a gain control signal and in response thereto generating a second controlled signal with a contrast-controlled and gain-controlled video component and a gain-controlled OSD component; and

receiving a second combining control signal and in response thereto receiving and selectively combining said second controlled signal and a second reference signal and thereby generating a multiplexed signal with said contrast-controlled and gain-controlled video component, said gain-controlled OSD component and a reference signal component.

10. (CURRENTLY AMENDED) ~~A~~ An analog multiplexed signal recorded on a recording medium and containing controlled video image and on-screen-display (OSD) information, ~~said multiplexed signal comprising:~~

a recording medium; and

an analog multiplexed signal recorded on said recording medium and comprising

a-an analog contrast-controlled and gain-controlled video signal component representing a portion of a video image for display as a portion of a composite display image on a display device; and generated by controlling said video signal contrast and gain mutually independently.

a-an analog gain-controlled OSD signal component representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device; and generated by controlling said video and OSD signal gains correspondingly, and~~

a reference signal component representing a blanked portion of said

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composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

11. *(CURRENTLY AMENDED)* A recording medium having recorded thereon ~~a-an analog~~ multiplexed signal containing controlled video image and on-screen-display (OSD) information for controlling a display of said video image, said recording medium having been prepared by the steps of:

recording ~~a-an analog~~ contrast-controlled and gain-controlled video signal component representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

recording ~~a-an analog~~ gain-controlled OSD signal component representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device~~ and generated by controlling said video and OSD signal gains correspondingly; and

recording a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

12. *(ORIGINAL)* An apparatus including a signal multiplexor for controlling and multiplexing video image and on-screen-display (OSD) signals, comprising:

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a first control circuit that following reception of a first reference signal, a contrast control signal and a clamped video signal provides a first controlled signal with a contrast-controlled video component;

a first signal combining circuit, coupled to said first control circuit, that in response to a first combining control signal receives and selectively combines an OSD signal and said first controlled signal to thereby provide a first combination signal with said contrast-controlled video component and an OSD component;

a second control circuit, coupled to said first signal combining circuit, that following reception of said first combination signal, said first reference signal and a gain control signal provides a second controlled signal with a contrast-controlled and gain-controlled video component and a gain-controlled OSD component;

a second signal combining circuit, coupled to said second control circuit, that in response to a second combining control signal receives and selectively combines said second controlled signal and a second reference signal to thereby provide a multiplexed signal with said contrast-controlled and gain-controlled video component, said gain-controlled OSD component and a reference signal component; and

a variable filter circuit, coupled to said second signal combining circuit, that in response to a plurality of filter control signals selectively filters said multiplexed signal to thereby provide a filtered multiplexed signal with said contrast-controlled and gain-controlled video component and said gain-controlled OSD component having enhanced high frequency signal magnitudes.

13. (ORIGINAL) The apparatus of claim 12, further comprising a clamp circuit, coupled to said first control circuit, that following reception of said first reference signal, a clamp control signal, said first controlled signal and an input video signal provides said clamped video signal.

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14. (ORIGINAL) The apparatus of claim 13, wherein said clamp circuit comprises:

an input stage that following reception and combination of a switched clamp signal and said input video signal provides said clamped video signal;

a comparator circuit, coupled to said first control circuit, that following reception and comparison of said reference signal and said first controlled signal provides a clamp signal; and

a switch circuit, coupled between said comparator circuit and said input stage, that in response to said clamp control signal receives and switches said clamp signal to thereby provide said switched clamp signal.

15. (ORIGINAL) The apparatus of claim 12, wherein said first signal combining circuit comprises a multiplexor circuit that multiplexes said OSD signal and said first controlled signal in response to said first combining control signal to thereby provide said first combination signal.

16. (ORIGINAL) The apparatus of claim 12, wherein said second signal combining circuit comprises a multiplexor circuit that multiplexes said second and third controlled signals in response to said second combining control signal to thereby provide said multiplexed signal.

17. (ORIGINAL) The apparatus of claim 12, wherein said variable filter circuit comprises a variable high pass filter circuit.

18. (ORIGINAL) The apparatus of claim 12, wherein said variable filter circuit comprises:

an amplifier circuit; and

a variably capacitive feedback circuit, coupled to said amplifier circuit, that

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in response to a portion of said plurality of filter control signals provides a variably capacitive feedback for said amplifier circuit.

19. (ORIGINAL) The apparatus of claim 18, wherein said variably capacitive feedback circuit comprises:

a plurality of capacitive circuit elements;

a plurality of switch circuits, coupled between said amplifier circuit and said plurality of capacitive circuit elements, that in response to said portion of said plurality of filter control signals selectively provide electrical connections between said amplifier circuit and said plurality of capacitive circuit elements.

20. (ORIGINAL) The apparatus of claim 18, further comprising a variable DC signal generator circuit, coupled to said variable filter circuit, that in response to another portion of said plurality of filter control signals provides a variable DC signal to said variably capacitive feedback circuit.

21. (CURRENTLY AMENDED) ~~A~~An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information, comprising:

~~a~~an analog contrast-controlled and gain-controlled video signal component having enhanced high frequency signal magnitudes and representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

~~a~~an analog gain-controlled OSD signal component having enhanced high frequency signal magnitudes and representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device~~ and generated by controlling said video and OSD signal gains correspondingly;

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and

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

22. (CURRENTLY AMENDED) ~~A~~ An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information and conveyed via a signal medium, ~~said multiplexed signal comprising:~~

a signal medium; and

an analog multiplexed signal conveyed via said signal medium and comprising

a-an analog contrast-controlled and gain-controlled video signal component having enhanced high frequency signal magnitudes and representing a portion of a video image for display as a portion of a composite display image on a display device; and generated by controlling said video signal contrast and gain mutually independently,

a-an analog gain-controlled OSD signal component having enhanced high frequency signal magnitudes and representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device;~~ and generated by controlling said video and OSD signal gains correspondingly, and

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming

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a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

23. (CURRENTLY AMENDED) ~~A~~ An analog multiplexed signal containing controlled video image and on-screen-display (OSD) information for conveyance via a signal medium, ~~said multiplexed signal~~ comprising:

~~a~~ an analog contrast-controlled and gain-controlled video signal component having enhanced high frequency signal magnitudes and representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

~~a~~ an analog gain-controlled OSD signal component having enhanced high frequency signal magnitudes and representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device~~ and generated by controlling said video and OSD signal gains correspondingly; and

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

24. (ORIGINAL) A method of controlling and multiplexing video image and on-screen-display (OSD) signals, comprising the steps of:

receiving a first reference signal, a contrast control signal and a clamped video signal and in response thereto generating a first controlled signal with a contrast-controlled video component;

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receiving a first combining control signal and in response thereto receiving and selectively combining an OSD signal and said first controlled signal and thereby generating a first combination signal with said contrast-controlled video component and an OSD component;

receiving said first combination signal, said first reference signal and a gain control signal and in response thereto generating a second controlled signal with a contrast-controlled and gain-controlled video component and a gain-controlled OSD component;

receiving a second combining control signal and in response thereto receiving and selectively combining said second controlled signal and a second reference signal and thereby generating a multiplexed signal with said contrast-controlled and gain-controlled video component, said gain-controlled OSD component and a reference signal component; and

receiving a plurality of filter control signals and in response thereto selectively filtering said multiplexed signal and thereby generating a filtered multiplexed signal with said contrast-controlled and gain-controlled video component and said gain-controlled OSD component having enhanced high frequency signal magnitudes.

25. (CURRENTLY AMENDED) ~~A~~ An analog multiplexed signal recorded on a recording medium and containing controlled video image and on-screen-display (OSD) information, ~~said multiplexed signal comprising:~~

a recording medium; and

an analog multiplexed signal recorded on said recording medium and comprising

a an analog contrast-controlled and gain-controlled video signal component having enhanced high frequency signal magnitudes and representing a portion of a video image for display as a portion of a composite display image on a

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display device; and generated by controlling said video signal contrast and gain mutually independently,

~~a-an analog~~ gain-controlled OSD signal component having enhanced high frequency signal magnitudes and representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device;~~ and generated by controlling said video and OSD signal gains correspondingly, and

a reference signal component representing a blanked portion of said composite display image ~~on said display device;~~

wherein said video, OSD and reference signal components are time-division-multiplexed with said video and OSD signal components together forming a visible portion and said reference signal component forming a blanked portion of said composite display image when displayed on said display device.

26. (CURRENTLY AMENDED) A recording medium having recorded thereon ~~a-an analog~~ multiplexed signal containing controlled video image and on-screen-display (OSD) information for controlling a display of said video image, said recording medium having been prepared by the steps of:

recording ~~a-an analog~~ contrast-controlled and gain-controlled video signal component having enhanced high frequency signal magnitudes and representing a portion of a video image for display as a portion of a composite display image on a display device and generated by controlling said video signal contrast and gain mutually independently;

recording ~~a-an analog~~ gain-controlled OSD signal component having enhanced high frequency signal magnitudes and representing a portion of an OSD image for display as another portion of said composite display image ~~on said display device~~ and generated by controlling said video and OSD signal gains correspondingly; and

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recording a reference signal component representing a blanked portion of
said composite display image ~~on said display device~~;

wherein said video, OSD and reference signal components are time-
division-multiplexed with said video and OSD signal components together forming
a visible portion and said reference signal component forming a blanked portion of
said composite display image when displayed on said display device.
